

Application No. 10/657,582
Amendment dated June 9, 2004
Reply to Office Action dated March 12, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A compressor assembly for compressing a gas and lubricated with an oil, said compressor assembly comprising:

a housing;
a discharge chamber defined within said housing;
a horizontal scroll compressor mechanism disposed within said housing, wherein said compressor mechanism comprises a generally horizontal crankshaft, a fixed scroll member and an orbiting scroll member, said fixed and orbiting scroll members being mutually engaged, wherein said fixed scroll member is sealed against said housing to define said discharge chamber, and defining wherein said compressor mechanism defines a working space in which gas is compressed, said compressor mechanism having a first port in communication with said discharge chamber whereby oil and compressed gas are communicated from said working space to said discharge chamber; and
a second port in said discharge chamber defining an outlet in said housing through which oil and compressed gas are discharged from said compressor assembly, said second port disposed vertically below said first port in a lower half of said discharge chamber whereby oil collected within said discharge chamber is dischargeable with the compressed gas through said second port and wherein substantially all fluids entering said discharge chamber enter through said first port and substantially all fluids exiting said discharge chamber exit through said second port.

Claim 2 (original): The compressor assembly of claim 1 further comprising a valve sealingly engageable with said first port, said valve allowing fluids to enter said discharge chamber from said working space and inhibiting passage of fluids from said discharge chamber to said working space.

Claim 3 (original): The compressor assembly of claim 1 further comprising a discharge tube, said discharge tube having an inlet positioned in said discharge chamber, said inlet defining said second port.

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Claim 4 (original): The compressor assembly of claim 3 wherein said discharge tube extends through said housing and said housing includes a relatively flat portion adjacent said discharge tube, said discharge tube being welded to said housing at said flat portion.

Claim 5 (currently amended): The compressor assembly of claim 1 wherein ~~said compressor mechanism comprises a fixed scroll member and an orbiting scroll member, said fixed and orbiting scroll members being mutually engaged, said first port is located in said fixed scroll member.~~

Claim 6 (currently amended): A horizontal compressor assembly for compressing a gas and lubricated with an oil, said compressor assembly comprising:

a hermetically sealed housing defining a high pressure discharge chamber defining a first volume and a low pressure chamber, wherein the bottom portion of said low pressure chamber comprises a first oil reservoir and the bottom portion of said high pressure chamber comprises a second oil reservoir, and wherein said first oil reservoir is partitioned from said second oil reservoir;

a compressor mechanism disposed within said housing, said compressor mechanism operably disposed between said high pressure discharge chamber and said low pressure chamber and defining a working space in which gas is compressed, said compressor mechanism having a generally horizontally oriented crankshaft;

a motor for driving said compressor mechanism, said motor located in said low pressure chamber;

a first port in communication with said working space and said high pressure chamber wherein compressed gas and oil are communicated from said working space to said high pressure chamber;

a second port defining an outlet in said housing and in communication with said high pressure chamber, said second port disposed vertically below said first port wherein a majority of said first volume high pressure chamber is disposed vertically above said second port and wherein substantially all fluids entering said discharge chamber enter through said first port and substantially all fluids exiting said discharge chamber exit through said second port.

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Claim 7 (original): The compressor assembly of claim 6 further comprising a discharge tube, said discharge tube having an inlet positioned in said high pressure chamber, said inlet defining said second port.

Claim 8 (original): The compressor assembly of claim 7 wherein said discharge tube extends through said housing and said housing includes a relatively flat portion adjacent said discharge tube, said discharge tube being welded to said housing at said flat portion.

Claim 9 (original): The compressor assembly of claim 6 wherein said compressor mechanism comprises a fixed scroll member and an orbiting scroll member, said fixed and orbiting scroll members being mutually engaged, said first port defined by said fixed scroll member.

Claim 10 (original): The compressor assembly of claim 9 further comprising a valve sealingly engageable with said first port, said valve allowing fluids to enter said high pressure chamber and inhibiting passage of fluids from said high pressure chamber through said first port.

Claim 11 (original): The compressor assembly of claim 6 wherein said housing defines an inlet opening in communication with said low pressure chamber.

Claim 12 (cancelled):

Claim 13 (currently amended): A method of controlling the movement and accumulation of oil in a horizontal compressor mechanism, said method comprising:

providing ~~an~~ a hermetically sealed housing defining a high pressure chamber and a low pressure chamber;

providing a compressor mechanism within said housing;

compressing a gas with said compressor mechanism and discharging oil and compressed gas from said compressor mechanism into said high pressure chamber through a first port;

accumulating oil in a bottom portion of said low pressure chamber;

accumulating oil in a bottom portion of said high pressure chamber;

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partitioning the oil in the bottom of said low pressure chamber from the oil in the bottom of said high pressure chamber;

positioning a second port in said high pressure chamber vertically between said bottom portion and said first port;

limiting the accumulation of oil within said high pressure chamber by discharging excess oil through said second port together with compressed gas; and

enclosing said high pressure chamber wherein substantially all fluids entering and discharged from said high pressure chamber enter and exit said high pressure chamber through said first and second ports.

Claim 14 (currently amended): The method of claim 13 further comprising the step of providing a motor for driving said compressor mechanism and disposing said motor in said low pressure chamber.

Claim 15 (original): The method of claim 14 further comprising the step of circulating oil within said low pressure chamber.

Claim 16 (cancelled):

Claim 17 (original): The method of claim 13 wherein said compressor mechanism comprises a fixed scroll member and an orbiting scroll member and said step of compressing a gas with said compressor mechanism includes orbiting said orbiting scroll member relative to said fixed scroll member.

Claim 18 (new): A compressor assembly comprising:

a housing having a low pressure chamber and a high pressure chamber;

a compressor mechanism, wherein said compressor mechanism has an inlet in fluid communication with said low pressure chamber and an outlet in fluid communication with said high pressure chamber;

a first oil reservoir in said low pressure chamber;

a second oil reservoir in said high pressure chamber, wherein said first oil reservoir is partitioned from said second oil reservoir;

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a suction inlet in said housing, wherein said housing inlet is in fluid communication with said low pressure chamber; and

a discharge outlet in said housing, wherein said discharge outlet is in fluid communication with said high pressure chamber, and wherein said housing outlet is positioned vertically below said compressor mechanism outlet,

whereby oil in said second reservoir may exit said high pressure chamber though said housing outlet.

Claim 19 (new): The compressor assembly of claim 18 wherein said compressor mechanism is sealed against said housing to partition said first oil reservoir from said second reservoir.

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Amendments to the Drawings:

The attached is a set of formal drawings is to replace the drawings as originally filed. The set includes changes to Fig. 2 and an annotated sheet showing the changes made is also enclosed.

Attachment: Replacement Sheets
Annotated Sheet Showing Changes